State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Carroll D. Besadny
Secretary

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CR 88-150

STATE OF WISCONSIN)
)
DEPARTMENT OF NATURAL RESOURCES)

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETINGS:

I, Bruce B. Braun, Deputy Secretary of the Department of Natural Resources and custodian of the official records of said Department, do hereby certify that the annexed copy of Natural Resources Board Order No. WW-37-88 was duly approved and adopted by this Department on December 15, 1988. I further certify that said copy has been compared by me with the original on file in this Department and that the same is a true copy thereof, and of the whole of such original.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the official seal of the Department at the Natural Resources Building in the City of Madison, this 13th day of February, 1989.

Bruce B. Braun, Deputy Secretary

(SEAL)

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6-1-89

ORDER OF THE STATE OF WISCONSIN
NATURAL RESOURCES BOARD
REPEALING AND RECREATING RULES

IN THE MATTER of repealing and recreating ch. NR 256 of the Wisconsin Administrative Code pertaining to the effluent limitations and pretreatment standards for the metal molding and casting industry	WW-37-88

Analysis Prepared by Department of Natural Resources

Statutory authority: ss. 147.01, 147.035, 147.04, 147.06, 147.07, and 227.11(2)(a), Stats.
Statutes interpreted: ss. 147.035, 147.04, 147.06, and 147.07, Stats.

The Federal Water Pollution Control Act amendments of 1972 established a comprehensive program to "restore and maintain the chemical, physical and biological integrity of the Nation's waters" (section 101(a)). To implement the act, the U.S. Environmental Protection Agency issues effluent limitation guidelines, pretreatment standards, and new source performance standards for industrial wastewater discharges. The Clean Water Act of 1977 expanded the federal pollution control program by setting different types of effluent limitations: "best practicable technology" (BPT), "best available technology" (BAT), "best conventional technology" (BCT), "new source performance standards" (NSPS), "pretreatment standards for existing sources" (PSES), and "pretreatment standards for new sources" (PSNS). The Clean Water Act stressed control of toxic pollutants, including 65 "priority" pollutants and classes of pollutants in 21 major industries.

The Wisconsin Department of Natural Resources instituted the Wisconsin pollutant discharge elimination system in 1976. This system included regulating of effluent discharges of various industries. The Wisconsin Department of Natural Resources is promulgating ch. NR 256, Wis. Adm. Code, to regulate the metal molding and casting industry. The provisions of this chapter are based upon the U.S. Environmental Protection Agency's regulations in 40 C.F.R. Part 464.

The purpose of this rule is to specify effluent limitations for BPT, BAT, BCT, and NSPS for the direct discharge of waste to waters of the state and to establish pretreatment standards for the introduction of pollutants to publicly owned treatment works. The effect of the repeal and recreation of ch. NR 256, Wis. Adm. Code, will be to clarify and update standards and limitations for industrial wastewater discharges from the metal molding and casting industry. The code will reflect changes made by the U.S. Environmental Protection Agency under authority of sections 301, 304, 306, 307, 308, and 501 of the Clean Water Act.

Metal molding and casting encompasses those plants which remelt and cast metal into an intermediate or final product by pouring or forcing the molten metal into a mold. The industry uses a variety of metal molding and casting techniques, some of which require air pollution control devices, to cast several different metals. Standard process steps include remelting the metal in a furnace, preparing the molds, pouring or injecting the molten metal into a mold, separating the mold medium from the casting, cooling the casting, and preshipment processing of the casting.

Water is used throughout these various process steps and becomes contaminated either through its use in air pollution control devices associated with the various manufacturing processes or through direct contact with some part of the process or casting. The pollutant characteristics of the resulting wastewater vary depending on the type of metal cast, the manufacturing process employed, and the type of air pollution control device associated with the manufacturing process. Approximately 80 percent of the wastewater associated with metal molding and casting operations is generated by air pollution control devices. This wastewater does not contact the products cast.

The metal molding and casting category has been divided into four subcategories based on the type of base metal cast. Metals regulated under this category are gray iron, ductile iron, malleable iron, steel, aluminum, copper, zinc and their respective alloys. Each subcategory has been further divided into distinct manufacturing or air pollution control process segments that generate wastewaters. The regulation covers 28 process segments.

Depending on the final use of the casting, further processing by machining, chemical treatment, electroplating, painting, or coating may take place. Except for grinding scrubber operations in the aluminum, ferrous, and copper casting subcategories, these regulations do not cover processing operations following the cooling of castings. These process operations are covered under aluminum forming (40 CFR Part 467), nonferrous forming (40 CFR Part 471), electroplating (40 CFR Part 413), or metal finishing (40 CFR Part 433).

The regulations control the discharge of total suspended solids, oil and grease, ph, copper, lead, zinc, total phenols, and total toxic organics (TTO). Where TTO is regulated, an alternate monitoring parameter, oil and grease, may be substituted.

Except for copper smelting, this category does not include the casting of ingots, pigs or other cast shapes produced by primary nonferrous metal smelting. Those operations are regulated under the nonferrous metals manufacturing category (40 C.F.R. Part 421). The casting of ferrous ingots, pigs, or other cast shapes is primarily a dry operation involving no process wastewater. Consequently, no regulations have been developed for this operation.

The casting of aluminum or zinc within an aluminum or zinc forming plant is regulated by the aluminum forming (40 C.F.R. Part 467) or nonferrous forming regulations (40 C.F.R. Part 471), respectively. The casting of copper-beryllium alloys, where beryllium is present at 0.1 or greater percent by weight, and the casting of copper-precious metals alloys, where the precious metal is present at 30 or greater percent by weight, are also excluded from this regulation.

Four federal documents form the basis for 40 CFR Part 464 and this rule: (1) development document for effluent limitations guidelines, new source performance standards, and pretreatment standards for the metal molding and casting point source category (USEPA, Washington, D.C., October 1985), (2) economic impact analysis of effluent limitations guidelines and standards for the metal molding and casting industry (USEPA, Washington, D.C., October 1985), (3) response to public comments, proposed metal molding and casting effluent limitations guidelines and standards (USEPA, Washington, D.C., October 1985), and (4) sampling and analysis procedures for screening of industrial effluents for priority pollutants (USEPA, Cincinnati, Ohio, April 1977). Copies of these documents are available for inspection at the central office of the Wisconsin Department of Natural Resources, 101 south Webster street, Madison, and may be obtained from the National Technical Information Service (NTIS), Springfield, Virginia 22161, (703) 487-4600.

This rule uses the format and text of 40 CFR Part 464 and is identical to the federal regulation for purposes of s. 227.14(1m)(a), Stats. However, changes have been made in the text of the federal regulation to make the rule useful to Wisconsin citizens, industry and regulating authorities. These changes are consistent with the current state regulatory framework and reflect as much as possible the conventions of state rule drafting.

As required by the administrative rules procedures manual, a purpose section has been added. In addition, revisions have been made to the numbering system, citation formats and definition formats. Where possible, Wisconsin administrative code references were substituted in the text for references to the Code of Federal Regulations. Citations in the text to the Code of Federal Regulations may be cross-referenced to corresponding sections of the Wisconsin Administrative Code in the table which has been added at the end of the rule. The authority section and subpart divisions in the federal regulation have been deleted. Definitions for "existing source" and "new source" have been added to the general definitions section in the state rule.

SECTION 1. Chapter NR 256 is repealed and recreated to read:

Chapter NR 256

METAL MOLDING AND CASTING

Subchapter II - Copper casting subcategory

Subchapter III - Ferrous casting subcategory

Subchapter IV - Zinc casting subcategory

Chapter NR 256

Metal Molding and Casting

NR 256.01 PURPOSE. The purpose of this chapter is to establish effluent limitations, standards of performance, and pretreatment standards for discharges of process wastes from the metal molding and casting category of point sources and its subcategories.

NR 256.02 APPLICABILITY. This chapter applies to aluminum, copper, ferrous or zinc casting operations which discharge or may discharge pollutants to waters of the state or into a publicly owned treatment works.

NR 256.03 GENERAL DEFINITIONS. The following definitions are applicable to terms used in this chapter. Definitions of other terms and the meanings of other abbreviations are set forth in ss. NR 205.03, 205.04 and 211.03.

(1) "Aluminum casting" means the remelting of aluminum or an aluminum alloy to form an intermediate or final cast product by pouring or forcing the molten metal into a mold.

(2) "Copper casting" means the remelting of copper or a copper alloy, to form an intermediate or final cast product by pouring or forcing the molten metal into a mold.

(3) "Existing source" means any point source, except a new source as defined in sub. (5), from which pollutants may be discharged either into waters of the state or into a POTW.

(4) "Ferrous casting" means the remelting of ferrous metals to form an intermediate or final cast product by pouring or forcing the molten metal into a mold.

(5) "New source", as defined for new source performance standards and pretreatment standards for new sources, means any point source from which pollutants are or may be discharged directly into the waters of the state or into a POTW, the construction of which commenced after November 15, 1982.

(6) "Noncontinuous discharger" means a plant which does not discharge pollutants during periods of at least 24 hours in duration for reasons other than an upset, such as plants which routinely store wastewater for treatment on a batch basis.

(7) "Total phenols" means total phenolic compounds as measured by the test procedure for phenols, which is distillation followed by manual or automated colorimetric (4AAP), as indicated in ch. NR 219, Table B, for parameter 48.

(8) "Zinc casting" means the remelting of zinc or a zinc alloy to form an intermediate or final cast product by pouring or forcing the molten metal into a mold.

(9) Abbreviations to be used:

(a) "SCF" means standard cubic feet.

(b) "Sm^3" means standard cubic meters.

(c) "TTO" and "total toxic organics" mean the sum of the mass of each of the toxic organic compounds specified in the tables within this chapter which are found at a concentration greater than 0.010 mg/l.

NR 256.04 MONITORING AND REPORTING REQUIREMENTS. (1) TOTAL TOXIC ORGANICS. An indirect discharger may elect to monitor for oil and grease as an alternate to TTO under PSES and PSNS regulatory values. Due to the high solubility of toxic organics in oil and grease, compliance with the oil and grease standard is considered equivalent to compliance with the TTO standard.

(2) NONCONTINUOUS DISCHARGERS. (a) For noncontinuous direct dischargers, the department shall apply effluent limitations or standards in the form of mass-based annual average, concentration-based maximum day and concentration-based maximum monthly average as indicated in the tables within this chapter.

(b) For noncontinuous indirect dischargers, the control authority may elect to establish concentration-based standards as outlined in sub. (3).

(3) CONVERSION TO CONCENTRATION-BASED UNITS. The control authority may apply concentration-based standards which are exactly equivalent to PSNS and PSES mass-based standards. Concentration-based standards shall be derived by the following procedure:

Multiply PSNS or PSES mass-based standards by (a) average production (kkg of metal poured), (b) raw material usage (kkg of sand reclaimed), or (c) air scrubber flow (Sm^3 of air scrubbed), whichever applies, and divide by average discharge flow to the POTW. In calculating, use

appropriate measurements and conversion factors to ensure that concentration-based units in mg/l result.

(4) MONTHLY DISCHARGE LIMIT. Compliance with the monthly discharge limits, as calculated from monthly average regulatory values from tables contained in this chapter, is required regardless of the number of samples analyzed and averaged.

NR 256.05 COMPLIANCE DATES. (1) Any existing source subject to this chapter which discharges to waters of the state shall achieve:

(a) the effluent limitations representing BPT by July 1, 1977; and

(b) the effluent limitations representing BAT by July 1, 1984.

(2) Any new source subject to this chapter which discharges to waters of the state shall achieve NSPS at the commencement of discharge.

(3) Any existing source subject to this chapter which introduces process wastewater pollutants into a POTW shall achieve PSES by October 31, 1988.

(4) Any new source subject to this chapter which introduces process wastewater pollutants into a POTW shall achieve PSNS at the commencement of discharge.

SUBCHAPTER I - ALUMINUM CASTING SUBCATEGORY

NR 256.10 APPLICABILITY; DESCRIPTION OF THE ALUMINUM CASTING SUBCATEGORY. (1) This subchapter applies to discharges to waters of the state and to introductions of pollutants into publicly owned treatment works from aluminum casting operations. It applies to a production process if the molten metal contains, on average, greater than 50% by weight of aluminum or if aluminum comprises the greatest percentage of the metal, measured by weight.

(2) This subchapter does not apply to the casting of ingots, pigs or other cast shapes following primary metal smelting, which is regulated by the nonferrous metals manufacturing point source category under 40 C.F.R. Part 421. This subchapter does not apply to the casting of aluminum performed as an integral part of aluminum forming and conducted on-site at an aluminum forming plant, which is regulated by the aluminum forming point source category under 40 C.F.R. Part 467.

(3) Processing operations following the cooling of castings, except for grinding scrubber operations, may be regulated by the aluminum forming point source category under 40 C.F.R. Part 467, electroplating point source category under ch. NR 260, or metal finishing point source category under ch. NR 261.

NR 256.12 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST PRACTICABLE CONTROL TECHNOLOGY CURRENTLY AVAILABLE. Except as provided in 40 C.F.R. ss. 125.30 to 125.32, any existing point source subject to this subchapter, including

noncontinuous direct dischargers, shall achieve the following BPT effluent limitations. Grinding scrubber operations may not discharge process wastewater pollutants to waters of the state.

TABLE 1

ALUMINUM CASTING SUBCATEGORY

CASTING CLEANING OPERATIONS

BPT Effluent Limitations

			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0771	0.0421	0.77	0.42	0.017
Lead (T)	0.0791	0.039	0.79	0.39	0.022
Zinc (T)	0.114	0.0431	1.14	0.43	0.027
Oil & grease	3.0	1.0	30	10	0.501
TSS	3.8	1.5	38	15	1.0
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (12/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 2

ALUMINUM CASTING SUBCATEGORY

CASTING QUENCH OPERATIONS

BPT Effluent Limitations

			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0093	0.0051	0.77	0.42	0.0021
Lead (T)	0.0096	0.0047	0.79	0.39	0.0027
Zinc (T)	0.0138	0.0052	1.14	0.43	0.0033
Oil & grease	0.363	0.121	30	10	0.0605
TSS	0.46	0.182	38	15	0.121
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (1.45/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 3

ALUMINUM CASTING SUBCATEGORY

DIE CASTING OPERATIONS

BPT Effluent Limitations

			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0066	0.0036	0.77	0.42	0.0015
Lead (T)	0.0068	0.0034	0.79	0.39	0.0019
Zinc (T)	0.0098	0.0037	1.14	0.43	0.0023
Total phenols	0.0074	0.0026	0.86	0.3	0.0017
Oil & grease	0.259	0.0864	30	10	0.0432
TSS	0.33	0.13	38	15	0.0864
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (1.04/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 4

ALUMINUM CASTING SUBCATEGORY

DUST COLLECTION SCRUBBER OPERATIONS

BPT Effluent Limitations					
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.231	0.126	0.77	0.42	0.0511
Lead (T)	0.237	0.117	0.79	0.39	0.0661
Zinc (T)	0.343	0.129	1.14	0.43	0.0811
Total phenols	0.258	0.09	0.86	0.3	0.0601
Oil & grease	9.01	3.0	30	10	1.5
TSS	11.4	4.51	38	15	3.0
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (0.036/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

(2) kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 5

ALUMINUM CASTING SUBCATEGORY

INVESTMENT CASTING

BPT Effluent Limitations

			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	8.48	4.63	0.77	0.42	1.87
Lead (T)	8.7	4.3	0.79	0.39	2.42
Zinc (T)	12.6	4.74	1.14	0.43	2.97
Oil & grease	330	110	30	10	55.1
TSS	419	165	38	15	110
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (1,320/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 6

ALUMINUM CASTING SUBCATEGORY

MELTING FURNACE SCRUBBER OPERATIONS

BPT Effluent Limitations

			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed		mg/l[1]	mg/l[1]	[2]
Copper (T)	3.01	1.64	0.77	0.42	0.664
Lead (T)	3.09	1.52	0.79	0.39	0.859
Zinc (T)	4.45	1.68	1.14	0.43	1.05
Total phenols	3.36	1.17	0.86	0.3	0.781
Oil & grease	117	39.1	30	10	19.5
TSS	148	58.6	38	15	39.1
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (0.468/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

(2) kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 7

ALUMINUM CASTING SUBCATEGORY

MOLD COOLING OPERATIONS

BPT Effluent Limitations

			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		(1) mg/l	(1) mg/l	(1)
Copper (T)	0.297	0.162	0.77	0.42	0.0656
Lead (T)	0.305	0.151	0.79	0.39	0.0849
Zinc (T)	0.44	0.166	1.14	0.43	0.104
Oil & grease	11.6	3.86	30	10	1.93
TSS	14.7	5.79	38	15	3.86
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (46.3/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

NR 256.13 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST AVAILABLE TECHNOLOGY ECONOMICALLY ACHIEVABLE. Except as provided in 40 C.F.R. ss. 125.30 to 125.32, any existing point source subject to this subchapter, including noncontinuous direct dischargers, shall achieve the copper, lead, zinc, and

total phenols effluent limitations contained in s. NR 256.12. Grinding scrubber operations may not discharge process wastewater pollutants to waters of the state.

NR 256.14 NEW SOURCE PERFORMANCE STANDARDS. Any new source subject to this subchapter, including noncontinuous direct dischargers, shall achieve the effluent limitations contained in s. NR 256.12. Grinding scrubber operations may not discharge process wastewater pollutants to waters of the state.

NR 256.15 PRETREATMENT STANDARDS FOR EXISTING SOURCES. Except as provided in ss. NR 211.13 and 211.14, any existing source subject to this subchapter which introduces pollutants into a publicly owned treatment works shall comply with ch. NR 211 and achieve the following pretreatment standards for existing sources. Grinding scrubber operations may not discharge process wastewater pollutants to a POTW.

TABLE 8

ALUMINUM CASTING SUBCATEGORY

CASTING CLEANING OPERATIONS

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0771	0.0421
Lead (T)	0.0791	0.039
Zinc (T)	0.114	0.0431

TABLE 9

ALUMINUM CASTING SUBCATEGORY

CASTING QUENCH OPERATIONS

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0093	0.0051
Lead (T)	0.0096	0.0047
Zinc (T)	0.0138	0.0052
TTO[1]	0.029	0.0095
Oil and grease[2]	0.363	0.121

[1] TTO is comprised of the following toxic organic pollutants:
benzene
2,4,6-trichlorophenol
para-chloro meta-cresol
chloroform (trichloromethane)
2,4-dimethylphenol
fluoranthene
methylene chloride (dichloromethane)
phenol
bis(2-ethylhexyl)phthalate
butyl benzyl phthalate
pyrene
tetrachloroethylene
trichloroethylene

[2] Use as alternative to monitoring for TTO.

TABLE 10

ALUMINUM CASTING SUBCATEGORY

DIE CASTING OPERATIONS

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0066	0.0036
Lead (T)	0.0068	0.0034
Zinc (T)	0.0098	0.0037
Total phenols	0.0074	0.0026
TTO[1]	0.0308	0.01
Oil and grease[2]	0.259	0.0864

(1) TTO is comprised of the following toxic organic pollutants:
- acenaphthene
- benzene
- chlorobenzene
- 1,1,1-trichloroethane
- 2,4,6-trichlorophenol
- para-chloro meta-cresol
- chloroform (trichloromethane)
- 2,4-dimethylphenol
- fluoranthene
- methylene chloride (dichloromethane)
- naphthalene
- phenol
- bis(2-ethylhexyl)phthalate
- butyl benzyl phthalate
- di-n-butyl phthalate
- diethyl phthalate
- benzo (a)anthracene (1,2-benzanthracene)
- benzo (a)pyrene (3,4-benzopyrene)
- chrysene
- anthracene
- fluorene

phenanthrene
pyrene
tetrachloroethylene
toluene

(2) Use as alternative to monitoring for TTO.

TABLE 11

ALUMINUM CASTING SUBCATEGORY

DUST COLLECTION SCRUBBER OPERATIONS

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed	
Copper (T)	0.231	0.126
Lead (T)	0.237	0.117
Zinc (T)	0.343	0.129
Total phenols	0.258	0.09
TTO(1)	0.613	0.2
Oil and grease(2)	9.01	3.0

(1) TTO is comprised of the following toxic organic pollutants:
acenaphthene
2,4,6-trichlorophenol
chloroform (trichloromethane)
2,4-dimethylphenol
fluoranthene
methylene chloride (dichloromethane)
phenol
bis (2-ethylhexyl) phthalate
di-n-butyl phthalate
diethyl phthalate
benzo (a)pyrene (3,4-benzopyrene)
pyrene

(2) Use as alternative to monitoring for TTO.

TABLE 12

ALUMINUM CASTING SUBCATEGORY

INVESTMENT CASTING

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	kg/1000 kkg (pounds per million pounds) of metal poured	
Copper (T)	8.48	4.63
Lead (T)	8.7	4.3
Zinc (T)	12.6	4.74
TTO[1]	18.1	5.91
Oil and grease[2]	330	110

[1] TTO is comprised of the following toxic organic pollutants:
1,1,1-trichloroethane
chloroform (trichloromethane)
methylene chloride (dichloromethane)
bis (2-ethylhexyl) phthalate
pyrene
tetrachloroethylene
trichloroethylene

[2] Use as alternative to monitoring for TTO.

TABLE 13

ALUMINUM CASTING SUBCATEGORY

MELTING FURNACE SCRUBBER OPERATIONS

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed	
Copper (T)	3.01	1.64
Lead (T)	3.09	1.52
Zinc (T)	4.45	1.68
Total phenols	3.36	1.17
TTO[1]	7.97	2.6
Oil and grease[2]	117	39.1

[1] TTO is comprised of the toxic organic pollutants listed in Table 11.

[2] Use as alternative to monitoring for TTO.

TABLE 14

ALUMINUM CASTING SUBCATEGORY

MOLD COOLING OPERATIONS

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.297	0.162
Lead (T)	0.305	0.151
Zinc (T)	0.44	0.166
TTO[1]	0.935	0.304
Oil and grease[2]	11.6	3.86

[1] TTO is comprised of the toxic organic pollutants listed in Table 9.

[2] Use as alternative to monitoring for TTO.

NR 256.16 PRETREATMENT STANDARDS FOR NEW SOURCES. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into publicly owned treatment works shall comply with ch. NR 211 and achieve the pretreatment standards contained in s. NR 256.15. Grinding scrubber operations may not discharge process wastewater pollutants to a POTW.

SUBCHAPTER II - COPPER CASTING SUBCATEGORY

NR 256.20 APPLICABILITY; DESCRIPTION OF THE COPPER CASTING SUBCATEGORY.

(1) This subchapter applies to discharges to waters of the state and to introductions of pollutants into publicly owned treatment works from copper casting operations. It applies to a production process if the molten metal contains, on average, greater than 50% by weight of copper or if copper comprises the greatest percentage of the metal, measured by weight.

(2) This subchapter does not apply to the casting of ingots, pigs or other cast shapes following primary metal smelting, which is regulated by the nonferrous metals manufacturing point source category under 40 C.F.R. Part 421. This subchapter does not apply to the casting of copper alloys containing either beryllium at 0.1% or greater by weight or precious metal at 30% or greater by weight.

(3) Processing operations following the cooling of castings, except for grinding scrubber operations, may be regulated by the electroplating point source category under ch. NR 260 or metal finishing point source category under ch. NR 261.

NR 256.22 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST PRACTICABLE CONTROL TECHNOLOGY CURRENTLY AVAILABLE. Except as provided in 40 C.F.R. ss. 125.30 to 125.32, any existing point source subject to this subchapter, including

noncontinuous direct dischargers, shall achieve the following BPT effluent limitations. Grinding scrubber operations may not discharge process wastewater pollutants to waters of the state.

TABLE 15

COPPER CASTING SUBCATEGORY

CASTING QUENCH OPERATIONS

BPT Effluent Limitations					
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0307	0.0168	0.77	0.42	0.0068
Lead (T)	0.0315	0.0156	0.79	0.39	0.0088
Zinc (T)	0.0455	0.0171	1.14	0.43	0.0108
Oil & grease	1.2	0.399	30	10	0.199
TSS	1.52	0.598	38	15	0.399
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (4.8/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 16

COPPER CASTING SUBCATEGORY

DIRECT CHILL CASTING OPERATIONS

BPT Effluent Limitations					
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.928	0.506	0.77	0.42	0.205
Lead (T)	0.952	0.47	0.79	0.39	0.265
Zinc (T)	1.37	0.518	1.14	0.43	0.326
Oil & grease	36.2	12.1	30	10	6.03
TSS	45.8	18.1	38	15	12.1
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (145/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 17

COPPER CASTING SUBCATEGORY

DUST COLLECTION SCRUBBER OPERATIONS

BPT Effluent Limitations					
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.553	0.301	0.77	0.42	0.122
Lead (T)	0.567	0.28	0.79	0.39	0.158
Zinc (T)	0.818	0.309	1.14	0.43	0.194
Total phenols	0.617	0.215	0.86	0.3	0.144
Oil & grease	21.5	7.18	30	10	3.59
TSS	27.3	10.8	38	15	7.18
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (0.086/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

(2) kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 18

COPPER CASTING SUBCATEGORY

INVESTMENT CASTING

BPT Effluent Limitations

			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[(1)]	mg/l[(1)])	
Copper (T)	8.48	4.63	0.77	0.42	1.87
Lead (T)	8.7	4.3	0.79	0.39	2.42
Zinc (T)	12.6	4.74	1.14	0.43	2.97
Oil & grease	330	110	30	10	55.1
TSS	419	165	38	15	110
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (1,320/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 19

COPPER CASTING SUBCATEGORY

MELTING FURNACE SCRUBBER OPERATIONS

BPT Effluent Limitations					
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed		mg/l[1]	mg/l[1]	[2]
Copper (T)	1.81	0.988	0.77	0.42	0.4
Lead (T)	1.86	0.918	0.79	0.39	0.518
Zinc (T)	2.68	1.01	1.14	0.43	0.635
Total phenols	2.02	0.706	0.86	0.3	0.467
Oil & grease	70.6	23.5	30	10	11.8
TSS	89.4	35.3	38	15	23.5
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (0.282/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

(2) kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 20

COPPER CASTING SUBCATEGORY

MOLD COOLING OPERATIONS

BPT Effluent Limitations					
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.392	0.214	0.77	0.42	0.0865
Lead (T)	0.402	0.199	0.79	0.39	0.112
Zinc (T)	0.58	0.219	1.14	0.43	0.137
Oil & grease	15.3	5.09	30	10	2.54
TSS	19.3	7.63	38	15	5.09
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (61/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

NR 256.23 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST AVAILABLE TECHNOLOGY ECONOMICALLY ACHIEVABLE. Except as provided in 40 C.F.R. ss. 125.30 to 125.32, any existing point source subject to this subchapter, including noncontinuous direct dischargers, shall achieve the following BAT effluent

limitations. Grinding scrubber operations may not discharge process wastewater pollutants to waters of the state.

TABLE 21

COPPER CASTING SUBCATEGORY

CASTING QUENCH OPERATIONS

BAT Effluent Limitations					
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0307	0.0168	0.77	0.42	0.0068
Lead (T)	0.0211	0.0104	0.53	0.26	0.006
Zinc (T)	0.0303	0.0116	0.76	0.29	0.0072

(1) These concentrations shall be multiplied by the ratio of (4.8/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

TABLE 22

COPPER CASTING SUBCATEGORY

DIRECT CHILL CASTING OPERATIONS

BAT Effluent Limitations					
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.928	0.506	0.77	0.42	0.205
Lead (T)	0.639	0.314	0.53	0.26	0.181
Zinc (T)	0.916	0.35	0.76	0.29	0.217

(1) These concentrations shall be multiplied by the ratio of (145/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

TABLE 23

COPPER CASTING SUBCATEGORY

DUST COLLECTION SCRUBBER OPERATIONS

	BAT Effluent Limitations				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.553	0.301	0.77	0.42	0.122
Lead (T)	0.38	0.187	0.53	0.26	0.108
Zinc (T)	0.545	0.208	0.76	0.29	0.129
Total phenols	0.617	0.215	0.86	0.3	0.144

(1) These concentrations shall be multiplied by the ratio of (0.086/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

(2) kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed.

TABLE 24

COPPER CASTING SUBCATEGORY

INVESTMENT CASTING

BAT Effluent Limitations					
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	8.48	4.63	0.77	0.42	1.87
Lead (T)	5.84	2.86	0.53	0.26	1.65
Zinc (T)	8.37	3.19	0.76	0.29	1.98

(1) These concentrations shall be multiplied by the ratio of (1,320/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

TABLE 25

COPPER CASTING SUBCATEGORY

MELTING FURNACE SCRUBBER OPERATIONS

	BAT Effluent Limitations				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed		mg/l[1]	mg/l[1]	[2]
Copper (T)	1.81	0.988	0.77	0.42	0.4
Lead (T)	1.25	0.612	0.53	0.26	0.353
Zinc (T)	1.79	0.673	0.76	0.29	0.424
Total phenols	2.02	0.706	0.86	0.3	0.471

(1) These concentrations shall be multiplied by the ratio of (0.282/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

(2) kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed.

TABLE 26

COPPER CASTING SUBCATEGORY

MOLD COOLING OPERATIONS

BAT Effluent Limitations					
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.392	0.214	0.77	0.42	0.0865
Lead (T)	0.27	0.132	0.53	0.26	0.0763
Zinc (T)	0.387	0.148	0.76	0.29	0.0916

(1) These concentrations shall be multiplied by the ratio of (61/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

NR 256.24 NEW SOURCE PERFORMANCE STANDARDS. Any new source subject to this subchapter, including noncontinuous direct dischargers, shall achieve the following effluent standards. Grinding scrubber operations may not discharge process wastewater pollutants to waters of the state.

TABLE 27

COPPER CASTING SUBCATEGORY

CASTING QUENCH OPERATIONS

	NSPS				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0307	0.0168	0.77	0.42	0.0068
Lead (T)	0.0211	0.0104	0.53	0.26	0.006
Zinc (T)	0.0303	0.0116	0.76	0.29	0.0072
Oil and grease	1.2	0.399	30	10	0.199
TSS	0.598	0.479	15	12	0.104
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (4.8/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 28

COPPER CASTING SUBCATEGORY

DIRECT CHILL CASTING OPERATIONS

	NSPS				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.928	0.506	0.77	0.42	0.205
Lead (T)	0.639	0.314	0.53	0.26	0.181
Zinc (T)	0.916	0.35	0.76	0.29	0.217
Oil and grease	36.2	12.1	30	10	6.03
TSS	18.1	14.5	15	12	3.13
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (145/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 29

COPPER CASTING SUBCATEGORY

DUST COLLECTION SCRUBBER OPERATIONS

	NSPS				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.553	0.301	0.77	0.42	0.122
Lead (T)	0.38	0.187	0.53	0.26	0.108
Zinc (T)	0.545	0.208	0.76	0.29	0.129
Total phenols	0.617	0.215	0.86	0.3	0.144
Oil and grease	21.5	7.18	30	10	3.59
TSS	10.8	8.61	15	12	1.87
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (0.086/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

(2) kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 30

COPPER CASTING SUBCATEGORY

INVESTMENT CASTING

	NSPS				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	8.48	4.63	0.77	0.42	1.87
Lead (T)	5.84	2.86	0.53	0.26	1.65
Zinc (T)	8.37	3.19	0.76	0.29	1.98
Oil and grease	330	110	30	10	55.1
TSS	165	132	15	12	28.6
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (1,320/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 31

COPPER CASTING SUBCATEGORY

MELTING FURNACE SCRUBBER OPERATIONS

	NSPS				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed		mg/l[1]	mg/l[1]	[2]
Copper (T)	1.81	0.988	0.77	0.42	0.4
Lead (T)	1.25	0.612	0.53	0.26	0.353
Zinc (T)	1.79	0.673	0.76	0.29	0.424
Total phenols	2.02	0.706	0.86	0.3	0.471
Oil and grease	70.6	23.5	30	10	11.8
TSS	35.3	28.2	15	12	6.12
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (0.282/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

(2) kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 32

COPPER CASTING SUBCATEGORY

MOLD COOLING OPERATIONS

	NSPS				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.392	0.214	0.77	0.42	0.0865
Lead (T)	0.27	0.132	0.53	0.26	0.0763
Zinc (T)	0.387	0.148	0.76	0.29	0.0916
Oil and grease	15.3	5.09	30	10	2.54
TSS	7.63	6.11	15	12	1.32
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (61/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

NR 256.25 PRETREATMENT STANDARDS FOR EXISTING SOURCES. Except as provided in ss. NR 211.13 and 211.14, any existing source subject to this subchapter which introduces pollutants into a publicly owned treatment works shall comply with ch. NR 211 and achieve the following pretreatment standards for existing sources. Grinding scrubber operations may not discharge process wastewater pollutants to a POTW.

TABLE 33

COPPER CASTING SUBCATEGORY

CASTING QUENCH OPERATIONS

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0307	0.0168
Lead (T)	0.0211	0.0104
Zinc (T)	0.0303	0.0116
TTO[1]	0.0335	0.0109
Oil and grease[2]	1.2	0.399

(1) TTO is comprised of the following toxic organic pollutants:
chloroform (trichloromethane)
pentachlorophenol
bis(2-ethylhexyl)phthalate
dimethyl phthalate

(2) Use as alternative to monitoring for TTO.

TABLE 34

COPPER CASTING SUBCATEGORY

DIRECT CHILL CASTING OPERATIONS

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.928	0.506
Lead (T)	0.639	0.314
Zinc (T)	0.916	0.35

TABLE 35

COPPER CASTING SUBCATEGORY

DUST COLLECTION SCRUBBER OPERATIONS

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed	
Copper (T)	0.552	0.301
Lead (T)	0.38	0.187
Zinc (T)	0.545	0.208
Total phenols	0.617	0.215
TTO[1]	1.65	0.54
Oil and grease[2]	21.5	7.18

[1] TTO is comprised of the following toxic organic pollutants:
- acenaphthene
- para-chloro meta-cresol
- chloroform (trichloromethane)
- 2,4-dimethylphenol
- naphthalene
- 4-nitrophenol
- pentachlorophenol
- phenol
- bis (2-ethylhexyl) phthalate
- butyl benzyl phthalate
- di-n-butyl phthalate
- diethyl phthalate
- dimethyl phthalate
- benzo(a)anthracene (1,2-benzanthracene)
- 3,4-benzofluoranthene
- benzo(k) fluoranthene
- chrysene
- acenaphthylene
- anthracene
- phenanthrene
- pyrene

[2] Use as alternative to monitoring for TTO.

TABLE 36

COPPER CASTING SUBCATEGORY

INVESTMENT CASTING

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	kg/1000 kkg (pounds per million pounds) of metal poured	
Copper (T)	8.48	4.63
Lead (T)	5.84	2.86
Zinc (T)	8.37	3.19
TTO[1]	25.4	8.29
Oil and grease[2]	330	110

(1) TTO is comprised of the toxic organic pollutants listed in Table 35.

(2) Use as alternative to monitoring for TTO.

TABLE 37

COPPER CASTING SUBCATEGORY

MELTING FURNACE SCRUBBER OPERATIONS

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed	
Copper (T)	1.81	0.988
Lead (T)	1.25	0.612
Zinc (T)	1.79	0.673
Total phenols	2.02	0.706
TTO[1]	5.41	1.77
Oil and grease[2]	70.6	23.5

[1] TTO is comprised of the toxic organic pollutants listed in Table 35.

[2] Use as alternative to monitoring for TTO.

TABLE 38

COPPER CASTING SUBCATEGORY

MOLD COOLING OPERATIONS

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.392	0.214
Lead (T)	0.27	0.132
Zinc (T)	0.387	0.148
TTO[1]	0.428	0.14
Oil and grease[2]	15.3	5.09

[1] TTO is of the following toxic organic pollutants:
chloroform (trichloromethane)
pentachlorophenol
bis(2-ethylhexyl)phthalate
dimethyl phthalate

[2] Use as alternative to monitoring for TTO.

NR 256.26 PRETREATMENT STANDARDS FOR NEW SOURCES. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into publicly owned treatment works shall comply with ch. NR 211 and achieve the pretreatment standards contained in s. NR 256.25. Grinding scrubber operations may not discharge process wastewater pollutants to a POTW.

SUBCHAPTER III - FERROUS CASTING SUBCATEGORY

NR 256.30 APPLICABILITY; DESCRIPTION OF THE FERROUS CASTING SUBCATEGORY.

(1) This subchapter applies to discharges to waters of the state and to introductions of pollutants into publicly owned treatment works from ferrous casting operations. It applies to a production process if the molten metal contains, on average, greater than 50% by weight of ferrous metal or if ferrous metal comprises the greatest percentage of the metal, measured by weight.

(2) Ancillary scrubber operations, such as fan washes and backwashes, are covered by the mass limitations of the associated discrete wet scrubbing device. Water discharges from aftercooling devices are not regulated as a process wastewater in this subcategory.

(3) Processing operations following the cooling of castings, except for grinding scrubber operations, may be regulated by the electroplating point source category under ch. NR 260, or metal finishing point source category under ch. NR 261.

NR 256.31 SPECIALIZED DEFINITIONS. The following definitions are applicable to terms used in this subchapter:

(1) "Cast iron" means an iron containing carbon in excess of the solubility in the austentite that exists in the alloy at the eutectic temperature, or any iron-carbon alloy that contains 1.2% or more carbon by weight.

(2) "Discrete wet scrubbing device" means a distinct, stand-alone device that removes particulates and fumes from a contaminated gas stream by bringing the gas stream into contact with a scrubber liquor, usually water, and from which there is a wastewater discharge, including but not limited to spray towers and chambers, fixed and variable venturi scrubbers, wet caps, packed bed scrubbers, quenchers and orifice scrubbers. It does not include aftercoolers, ancillary scrubber operations such as fan washes and backwashes, or semi-wet scrubbing devices.

(3) "Ductile iron" means a cast iron treated while molten with a master alloy that contains an element such as magnesium or cerium to induce the formation of free graphite as nodules or spherules, which imparts a measurable degree of ductility to the cast metal.

(4) "Gray iron" means a cast iron that gives a gray fracture due to the presence of flake graphite.

(5) "Malleable iron" means a cast iron made by a prolonged anneal of white cast iron in which either decarburization or graphitization, or both, eliminate some or all of the cementite, and where graphite is present in the form of temper carbon.

(6) "Multiple ferrous melting furnace scrubber configuration" means a configuration where 2 or more discrete wet scrubbing devices are used in series in a single melting furnace exhaust gas stream.

(7) "Primary metal cast" means the metal that is poured in the greatest quantity at an individual plant.

(8) "Semi-wet scrubbing device" means a device to which water is added and totally evaporates prior to dry air pollution control.

(9) "Steel" means an iron-base alloy containing manganese, carbon at less than 1.2% by weight, and often other alloying elements.

NR 256.32 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST PRACTICABLE CONTROL TECHNOLOGY CURRENTLY AVAILABLE. Except as provided in 40 C.F.R ss. 125.30 to 125.32, any existing point source subject to this subchapter, including noncontinuous direct dischargers, shall achieve the following BPT effluent limitations. Grinding scrubber operations may not discharge process wastewater pollutants to waters of the state.

TABLE 39

FERROUS CASTING SUBCATEGORY

CASTING CLEANING OPERATIONS

BPT Effluent Limitations					
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0129	0.0071	0.29	0.16	0.0029
Lead (T)	0.0353	0.0174	0.79	0.39	0.0098
Zinc (T)	0.0656	0.025	1.47	0.56	0.0179
Oil & grease	1.34	0.446	30	10	0.223
TSS	1.7	0.67	38	15	0.446
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (5.33/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 40

FERROUS CASTING SUBCATEGORY

CASTING QUENCH OPERATIONS

BPT Effluent Limitations

			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0138	0.0076	0.29	0.16	0.0031
Lead (T)	0.0376	0.0185	0.79	0.39	0.0105
Zinc (T)	0.0699	0.0266	1.47	0.56	0.019
Oil & grease	1.43	0.476	30	10	0.238
TSS	1.81	0.713	38	15	0.476
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (5.7/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 41

FERROUS CASTING SUBCATEGORY

DUST COLLECTION SCRUBBER OPERATIONS

BPT Effluent Limitations

			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.218	0.12	0.29	0.16	0.0488
Lead (T)	0.593	0.293	0.79	0.39	0.165
Zinc (T)	1.1	0.421	1.47	0.56	0.3
Total phenols	0.656	0.225	0.86	0.3	0.15
Oil & grease	22.5	7.51	30	10	3.76
TSS	28.5	11.3	38	15	7.51
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (0.09/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

(2) kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 42

FERROUS CASTING SUBCATEGORY

INVESTMENT CASTING

BPT Effluent Limitations

			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	3.19	1.76	0.29	0.16	0.716
Lead (T)	8.7	4.3	0.79	0.39	2.42
Zinc (T)	16.2	6.17	1.47	0.56	4.41
Oil & grease	330	110	30	10	55.1
TSS	419	165	38	15	110
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (1,320/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 43

FERROUS CASTING SUBCATEGORY

MELTING FURNACE SCRUBBER OPERATIONS[1]

BPT Effluent Limitations

			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed		mg/l[2]	mg/l[2]	(3)
Copper (T)	1.02	0.561	0.29	0.16	0.228
Lead (T)	2.77	1.37	0.79	0.39	0.771
Zinc (T)	5.15	1.96	1.47	0.56	1.4
Total phenols	3.01	1.05	0.86	0.3	0.701
Oil & grease	105	35	30	10	17.5
TSS	133	52.6	38	15	35
pH	(4)	(4)	(4)	(4)	(4)

(1) In a multiple ferrous melting furnace scrubber configuration, each discrete wet scrubbing device with an associated wastewater discharge shall be given the mass allowance specified. The allowance will be identical for each device and based on the airflow of the exhaust gas stream that passes through the multiple scrubber configuration.

(2) These concentrations shall be multiplied by the ratio of (0.42/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

(3) kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed.

(4) Within the range of 7.0 to 10.0 at all times.

TABLE 44

FERROUS CASTING SUBCATEGORY

MOLD COOLING OPERATIONS

BPT Effluent Limitations

			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0428	0.0236	0.29	0.16	0.0096
Lead (T)	0.117	0.0576	0.79	0.39	0.0325
Zinc (T)	0.217	0.0827	1.47	0.56	0.0591
Oil & grease	4.43	1.48	30	10	0.738
TSS	5.61	2.22	38	15	1.48
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (17.7/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 45

FERROUS CASTING SUBCATEGORY

SLAG QUENCH OPERATIONS

BPT Effluent Limitations					
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0527	0.0291	0.29	0.16	0.0118
Lead (T)	0.144	0.0709	0.79	0.39	0.04
Zinc (T)	0.267	0.102	1.47	0.56	0.0728
Oil & grease	5.46	1.82	30	10	0.909
TSS	6.91	2.73	38	15	1.82
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (21.8/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 46

FERROUS CASTING SUBCATEGORY

WET SAND RECLAMATION OPERATIONS

BPT Effluent Limitations

			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of sand reclaimed		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.217	0.12	0.29	0.16	0.0485
Lead (T)	0.59	0.291	0.79	0.39	0.164
Zinc (T)	1.1	0.418	1.47	0.56	0.299
Total phenols	0.642	0.224	0.86	0.3	0.149
Oil & grease	22.4	7.47	30	10	3.73
TSS	28.4	11.2	38	15	7.47
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (89.5/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of sand reclaimed) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of sand reclaimed.

(3) Within the range of 7.0 to 10.0 at all times.

NR 256.33 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST AVAILABLE TECHNOLOGY ECONOMICALLY ACHIEVABLE. (1) Any plant, including noncontinuous direct dischargers, which casts primarily malleable iron where metal poured is equal

to or less than 3,557 tons per year or casts primarily steel, shall achieve the copper, lead, zinc, and total phenols effluent limitations contained in s. NR 256.32. Grinding scrubber operations may not discharge process wastewater pollutants to waters of the state.

(2) Except as provided in 40 C.F.R ss. 125.30 to 125.32, any plant, including noncontinuous direct dischargers, which casts primarily malleable iron where metal poured is greater than 3,557 tons per year or casts primarily ductile or gray iron shall achieve the following BAT effluent limitations. Grinding scrubber operations may not discharge process wastewater pollutants to waters of the state.

TABLE 47

FERROUS CASTING SUBCATEGORY

CASTING CLEANING OPERATIONS

	BAT Effluent Limitations				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0129	0.0071	0.29	0.16	0.0029
Lead (T)	0.0237	0.0116	0.53	0.26	0.0067
Zinc (T)	0.0437	0.0165	0.98	0.37	0.0116

[1] These concentrations shall be multiplied by the ratio of (5.33/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

[2] kg/1,000 kkg (pounds per million pounds) of metal poured.

TABLE 48

FERROUS CASTING SUBCATEGORY

CASTING QUENCH OPERATIONS

BAT Effluent Limitations

	NONCONTINUOUS DIRECT DISCHARGERS				
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0138	0.0076	0.29	0.16	0.0031
Lead (T)	0.0252	0.0124	0.53	0.26	0.0071
Zinc (T)	0.0466	0.0176	0.98	0.37	0.0124

(1) These concentrations shall be multiplied by the ratio of (5.7/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

TABLE 49

FERROUS CASTING SUBCATEGORY

DUST COLLECTION SCRUBBER OPERATIONS

BAT Effluent Limitations					
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.218	0.12	0.29	0.16	0.0488
Lead (T)	0.398	0.195	0.53	0.26	0.113
Zinc (T)	0.736	0.278	0.98	0.37	0.195
Total phenols	0.646	0.225	0.86	0.3	0.15

(1) These concentrations shall be multiplied by the ratio of (0.09/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

(2) kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed.

TABLE 50

FERROUS CASTING SUBCATEGORY

INVESTMENT CASTING

BAT Effluent Limitations					
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	3.19	1.76	0.29	0.16	0.716
Lead (T)	5.84	2.86	0.53	0.26	1.65
Zinc (T)	10.8	4.07	0.98	0.37	2.86

(1) These concentrations shall be multiplied by the ratio of (1,320/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of poured metal.

TABLE 51

FERROUS CASTING SUBCATEGORY

MELTING FURNACE SCRUBBER OPERATIONS[1]

BAT Effluent Limitations					
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed		mg/l[2]	mg/l[2]	(3)
Copper (T)	1.02	0.561	0.29	0.16	0.228
Lead (T)	1.86	0.911	0.53	0.26	0.526
Zinc (T)	3.44	1.3	0.98	0.37	0.911
Total phenols	3.01	1.05	0.86	0.3	0.701

(1) In a multiple ferrous melting furnace scrubber configuration, each discrete wet scrubbing device with an associated wastewater discharge shall be given the mass allowance specified. The allowance will be identical for each device and based on the airflow of the exhaust gas stream that passes through the multiple scrubber configuration.

(2) These concentrations shall be multiplied by the ratio of (0.42/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

(3) kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed.

TABLE 52

FERROUS CASTING SUBCATEGORY

MOLD COOLING OPERATIONS

BAT Effluent Limitations					
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0428	0.0236	0.29	0.16	0.0096
Lead (T)	0.0783	0.0384	0.53	0.26	0.0222
Zinc (T)	0.145	0.0546	0.98	0.37	0.0384

[1] These concentrations shall be multiplied by the ratio of (17.7/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

[2] kg/1,000 kkg (pounds per million pounds) of metal poured.

TABLE 53

FERROUS CASTING SUBCATEGORY

SLAG QUENCH OPERATIONS

BAT Effluent Limitations					
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0527	0.0291	0.29	0.16	0.0118
Lead (T)	0.0964	0.0473	0.53	0.26	0.0273
Zinc (T)	0.178	0.0673	0.98	0.37	0.0473

(1) These concentrations shall be multiplied by the ratio of (21.8/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

TABLE 54

FERROUS CASTING SUBCATEGORY

WET SAND RECLAMATION OPERATIONS

	BAT Effluent Limitations				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of sand reclaimed		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.217	0.12	0.29	0.16	0.0485
Lead (T)	0.396	0.194	0.53	0.26	0.112
Zinc (T)	0.732	0.276	0.98	0.37	0.194
Total phenols	0.642	0.224	0.86	0.3	0.149

(1) These concentrations shall be multiplied by the ratio of (89.5/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of sand reclaimed) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of sand reclaimed.

NR 256.34 NEW SOURCE PERFORMANCE STANDARDS. (1) Any new source, including noncontinuous direct dischargers, which casts primarily malleable iron where metal poured is equal to or less than 3,557 tons per year or casts primarily steel shall achieve the effluent standards contained in s. NR 256.32. Grinding scrubber operations may not discharge process wastewater pollutants to navigable waters.

(2) Any new source, including noncontinuous direct dischargers, which casts primarily malleable iron where metal poured is greater than 3,557 tons per year or casts primarily ductile or gray iron shall achieve the following effluent standards. Grinding scrubber operations may not discharge process wastewater pollutants to waters of the state.

TABLE 55

FERROUS CASTING SUBCATEGORY

CASTING CLEANING OPERATIONS

	NSPS				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0129	0.0071	0.29	0.16	0.0029
Lead (T)	0.0237	0.0116	0.53	0.26	0.0067
Zinc (T)	0.0437	0.0165	0.98	0.37	0.0116
Oil and grease	1.34	0.446	30	10	0.223
TSS	0.67	0.536	15	12	0.116
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (5.33/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 56

FERROUS CASTING SUBCATEGORY

CASTING QUENCH OPERATIONS

	NSPS				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0138	0.0076	0.29	0.16	0.0031
Lead (T)	0.0252	0.0124	0.53	0.26	0.0071
Zinc (T)	0.0466	0.0176	0.98	0.37	0.0124
Oil and grease	1.43	0.476	30	10	0.238
TSS	0.713	0.571	15	12	0.124
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (5.7/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 57

FERROUS CASTING SUBCATEGORY

DUST COLLECTION SCRUBBER OPERATIONS

	NSPS				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.218	0.12	0.29	0.16	0.0488
Lead (T)	0.398	0.195	0.53	0.26	0.113
Zinc (T)	0.736	0.278	0.98	0.37	0.195
Total phenols	0.646	0.225	0.86	0.3	0.15
Oil and grease	22.5	7.51	30	10	3.76
TSS	11.3	9.01	15	12	1.95
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (0.09/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

(2) kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 58

FERROUS CASTING SUBCATEGORY

INVESTMENT CASTING

	NSPS				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds (per billion pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	3.19	1.76	0.29	0.16	0.716
Lead (T)	5.84	2.86	0.53	0.26	1.65
Zinc (T)	10.8	4.07	0.98	0.37	2.86
Oil and grease	330	110	30	10	55.1
TSS	165	132	15	12	28.6
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (1,320/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 59

FERROUS CASTING SUBCATEGORY

MELTING FURNACE SCRUBBER OPERATIONS[1]

	NSPS				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed		mg/l[2]	mg/l[2]	(3)
Copper (T)	1.02	0.561	0.29	0.16	0.228
Lead (T)	1.86	0.911	0.53	0.26	0.526
Zinc (T)	3.44	1.30	0.98	0.37	0.911
Total phenols	3.01	1.05	0.86	0.3	0.701
Oil and grease	105	35	30	10	17.5
TSS	52.6	42.1	15	12	9.11
pH	(4)	(4)	(4)	(4)	(4)

(1) In a multiple ferrous melting furnace scrubber configuration, each discrete wet scrubbing device with an associated wastewater discharge shall be given the mass allowance specified. The allowance will be identical for each device and based on the airflow of the exhaust gas stream that passes through the multiple scrubber configuration.

(2) These concentrations shall be multiplied by the ratio of (0.42/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

(3) kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed.

(4) Within the range of 7.0 to 10.0 at all times.

TABLE 60

FERROUS CASTING SUBCATEGORY

MOLD COOLING OPERATIONS

	NSPS				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0428	0.0236	0.29	0.16	0.0096
Lead (T)	0.0783	0.0384	0.53	0.26	0.0222
Zinc (T)	0.0145	0.0546	0.98	0.37	0.0384
Oil and grease	4.43	1.48	30	10	0.738
TSS	2.22	1.77	15	12	0.384
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (17.7/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 61

FERROUS CASTING SUBCATEGORY

SLAG QUENCH OPERATIONS

	NSPS				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0527	0.0291	0.29	0.16	0.0118
Lead (T)	0.0964	0.0473	0.53	0.26	0.0273
Zinc (T)	0.178	0.0673	0.98	0.37	0.0473
Oil and grease	5.46	1.82	30	10	0.909
TSS	2.73	2.18	15	12	0.473
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (21.8/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 62

FERROUS CASTING SUBCATEGORY

WET SAND RECLAMATION OPERATIONS

	NSPS				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of sand reclaimed		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.217	0.12	0.29	0.16	0.0485
Lead (T)	0.396	0.194	0.53	0.26	0.112
Zinc (T)	0.732	0.276	0.98	0.37	0.194
Total phenols	0.642	0.224	0.86	0.3	0.149
Oil and grease	22.4	7.47	30	10	3.73
TSS	11.2	8.96	15	12	1.94
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (89.5/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of sand reclaimed) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of sand reclaimed.

(3) Within the range of 7.0 to 10.0 at all times.

NR 256.35 PRETREATMENT STANDARDS FOR EXISTING SOURCES. Except as provided in ss. NR 211.13 and 211.14, any existing source subject to this subchapter which introduces pollutants into a publicly owned treatment works shall comply with ch. NR 211 and achieve the following pretreatment standards for existing

sources. Grinding scrubber operations may not discharge process wastewater pollutants to a POTW.

TABLE 63

FERROUS CASTING SUBCATEGORY

CASTING CLEANING OPERATIONS

	PSES			
	Maximum for any 1 day (1)	Maximum for monthly average (1)	Maximum for any 1 day (2)	Maximum for monthly average (2)
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured			
Copper	0.0129	0.0071	0.0129	0.0071
Lead (T)	0.0237	0.0116	0.0353	0.0174
Zinc (T)	0.0437	0.0165	0.0656	0.025

(1) Applies to plants which cast primarily ductile iron, primarily malleable iron where metal poured is greater than 3,557 tons per year, or primarily gray iron where metal poured is greater than 1,784 tons per year.

(2) Applies to plants which cast primarily steel, primarily malleable iron where metal poured is equal to or less than 3,557 tons per year, or primarily gray iron where metal poured is equal to or less than 1,784 tons per year.

TABLE 64

FERROUS CASTING SUBCATEGORY

CASTING QUENCH OPERATIONS

	PSES			
	Maximum for any 1 day (1)	Maximum for monthly average (1)	Maximum for any 1 day (2)	Maximum for monthly average (2)
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured			
Copper	0.0138	0.0076	0.0138	0.0076
Lead (T)	0.0252	0.0124	0.0376	0.0185
Zinc (T)	0.0466	0.0176	0.0699	0.0266
TTO (3)	0.0257	0.00838	0.0257	0.00838
Oil and grease (4)	1.43	0.476	1.43	0.476

(1) Applies to plants which cast primarily ductile iron, primarily malleable iron where metal poured is greater than 3,557 tons per year, or primarily gray iron where metal poured is greater than 1,784 tons per year.

(2) Applies to plants which cast primarily steel, primarily malleable iron where metal poured is equal to or less than 3,557 tons per year, or primarily gray iron where metal poured is equal to or less than 1,784 tons per year.

(3) TTO is comprised of the following toxic organic pollutants:
chloroform (trichloromethane)
2,4-dimethylphenol

(4) Use as alternative to monitoring for TTO.

TABLE 65

FERROUS CASTING SUBCATEGORY

DUST COLLECTION SCRUBBER OPERATIONS

	PSES			
	Maximum for any 1 day (1)	Maximum for monthly average (1)	Maximum for any 1 day (2)	Maximum for monthly average (2)
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured			
Copper (T)	0.218	0.12	0.218	0.12
Lead (T)	0.398	0.195	0.593	0.293
Zinc (T)	0.736	0.278	1.1	0.421
Total phenols	0.646	0.225	0.656	0.225
TTO(3)	2.04	0.664	2.04	0.664
Oil and grease(4)	22.5	7.51	22.5	7.51

(1) Applies to plants which cast primarily ductile iron, primarily malleable iron where metal poured is greater than 3,557 tons per year, or primarily gray iron where metal poured is greater than 1,784 tons per year.

(2) Applies to plants which cast primarily steel, primarily malleable iron where metal poured is equal to or less than 3,557 tons per year, or primarily gray iron where metal poured is equal to or less than 1,784 tons per year.

(3) TTO is comprised of the following toxic organic pollutants:
acenaphthene
chloroform (trichloromethane)
2,4-dichlorophenol
2,4-dimethylphenol
fluoranthene
methylene chloride (dichloromethane)
naphthalene
pentachlorophenol
phenol
bis(2-ethylhexyl)phthalate
butyl benzyl phthalate
di-n-butyl phthalate
diethyl phthalate

dimethyl phthalate
benzo (a)anthracene (1,2-benzanthracene)
chrysene
acenaphthylene
anthracene
fluorene
phenanthrene
pyrene

(4) Use as alternative to monitoring for TTO.

TABLE 66

FERROUS CASTING SUBCATEGORY

INVESTMENT CASTING

	PSES			
	Maximum for any 1 day (1)	Maximum for monthly average (1)	Maximum for any 1 day (2)	Maximum for monthly average (2)
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured			
Copper (T)	3.19	1.76	3.19	1.76
Lead (T)	5.84	2.86	8.7	4.3
Zinc (T)	10.8	4.07	16.2	6.17
TTO(3)	13.2	4.3	13.2	4.3
Oil and grease(4)	330	110	330	110

(1) Applies to plants which cast primarily ductile iron, primarily malleable iron where metal poured is greater than 3,557 tons per year, or primarily gray iron where metal poured is greater than 1,784 tons per years per year.

(2) Applies to plants which cast primarily steel, primarily malleable iron where metal poured is equal to or less than 3,557 tons per year, or primarily gray iron where metal poured is equal to or less than 1,784 tons per year.

(3) TTO is comprised of the following toxic organic pollutants:
chloroform (trichloromethane)
methylene chloride (dichloromethane)
bis (2-ethylhexyl) phthalate
acenaphthylene
pyrene

(4) Use as alternative to monitoring for TTO.

TABLE 67

FERROUS CASTING SUBCATEGORY

MELTING FURNACE SCRUBBER OPERATIONS[1]

	PSES			
	Maximum for any 1 day [2]	Maximum for monthly average [2]	Maximum for any 1 day [3]	Maximum for monthly average [3]
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured			
Copper (T)	1.02	0.561	1.02	0.561
Lead (T)	1.86	0.911	2.77	1.37
Zinc (T)	3.44	1.30	5.15	1.96
Total phenols	3.01	1.05	3.01	1.05
TTO[4]	8.34	2.73	8.34	2.73
Oil and grease[5]	105	35	105	35

(1) In a multiple ferrous melting furnace scrubber configuration, each discrete wet scrubbing device with an associated wastewater discharge shall be given the mass allowance specified. The allowance will be identical for each device and based on the airflow of the exhaust gas stream that passes through the multiple scrubber configuration.

(2) Applies to plants which cast primarily ductile iron, primarily malleable iron where metal poured is greater than 3,557 tons per year, or primarily gray iron where metal poured is greater than 1,784 tons per year.

(3) Applies to plants which cast primarily steel, primarily malleable iron where metal poured is equal to or less than 3,557 tons per year, or primarily gray iron where metal poured is equal to or less than 1,784 tons per year.

(4) TTO is comprised of the following toxic organic pollutants:
chloroform (trichloromethane)
2,4-dichlorophenol
2,4-dimethylphenol
fluoranthene

methylene chloride (dichloromethane)
naphthalene
phenol
bis (2-ethylhexyl) phthalate
butyl benzyl phthalate
di-n-butyl phthalate
benzo (a)anthracene (1,2-benzanthracene)
chrysene
acenaphthylene
anthracene
fluorene
phenanthrene
pyrene

(5) Use as alternative to monitoring for TTO.

TABLE 68

FERROUS CASTING SUBCATEGORY

MOLD COOLING OPERATIONS

	PSES			
	Maximum for any 1 day (1)	Maximum for monthly average (1)	Maximum for any 1 day (2)	Maximum for monthly average (2)
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured			
Copper (T)	0.0428	0.0236	0.0428	0.0236
Lead (T)	0.0783	0.0384	0.117	0.0576
Zinc (T)	0.145	0.0546	0.217	0.0827
TTO(3)	0.0797	0.026	0.0797	0.026
Oil and grease(4)	4.43	1.48	4.43	1.48

(1) Applies to plants which cast primarily ductile iron, primarily malleable iron where metal poured is greater than 3,557 tons per year, or primarily gray iron where metal poured is greater than 1,784 tons per year.

(2) Applies to plants which cast primarily steel, primarily malleable iron where metal poured is equal to or less than 3,557 tons per year, or primarily gray iron where metal poured is equal to or less than 1,784 tons per year.

(3) TTO is comprised of the following toxic organic pollutants:
chloroform (trichloromethane)
2,4-dimethylphenol

(4) Use as alternative to monitoring for TTO.

TABLE 69

FERROUS CASTING SUBCATEGORY

SLAG QUENCH OPERATIONS

	PSES			
	Maximum for any 1 day (1)	Maximum for monthly average (1)	Maximum for any 1 day (2)	Maximum for monthly average (2)
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured			
Copper (T)	0.0527	0.0291	0.0527	0.0291
Lead (T)	0.0964	0.0473	0.144	0.0709
Zinc (T)	0.178	0.0673	0.267	0.102
TTO(1)	0.0257	0.00838	0.0257	0.00838
Oil and grease(4)	5.46	1.82	5.46	1.82

(1) Applies to plants which cast primarily ductile iron, primarily malleable iron where metal poured is greater than 3,557 tons per year, or primarily gray iron where metal poured is greater than 1,784 tons per year.

(2) Applies to plants which cast primarily steel, primarily malleable iron where metal poured is equal to or less than 3,557 tons per year, or primarily gray iron where metal poured is equal to or less than 1,784 tons per year.

(3) TTO is comprised of the following toxic organic pollutants:
2,4-dimethylphenol
dimethyl phthalate

(4) Use as alternative to monitoring for TTO.

TABLE 70

FERROUS CASTING SUBCATEGORY

WET SAND RECLAMATION OPERATIONS

	PSES			
	Maximum for any 1 day (1)	Maximum for monthly average (1)	Maximum for any 1 day (2)	Maximum for monthly average (2)
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured			
Copper (T)	0.217	0.12	0.217	0.12
Lead (T)	0.396	0.194	0.59	0.291
Zinc (T)	0.732	0.276	1.1	0.418
Total phenols	0.642	0.224	0.642	0.224
TTO(3)	1.18	0.386	1.18	0.386
Oil and grease(4)	22.4	7.47	22.4	7.47

(1) Applies to plants which cast primarily ductile iron, primarily malleable iron where metal poured is greater than 3,557 tons per year, or primarily gray iron where metal poured is greater than 1,784 tons per year.

(2) Applies to plants which cast primarily steel, primarily malleable iron where metal poured is equal to or less than 3,557 tons per year, or primarily gray iron where metal poured is equal to or less than 1,784 tons per year.

(3) TTO is comprised of the following toxic organic pollutants:
acenaphthene
2,4-dimethylphenol
fluoranthene
methylene chloride (dichloromethane)
naphthalene
phenol
bis (2-ethylhexyl) phthalate
di-n-butyl phthalate
diethyl phthalate
dimethyl phthalate
benzo(a)anthracene (1,2-benzanthracene)

acenaphthylene
pyrene

(4) Use as alternative to monitoring for TTO.

NR 256.36 PRETREATMENT STANDARDS FOR NEW SOURCES. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into publicly owned treatment works shall comply with ch. NR 211 and achieve the pretreatment standards contained in s. NR 256.35. Grinding scrubber operations may not discharge process wastewater pollutants to a POTW.

SUBCHAPTER IV - ZINC CASTING SUBCATEGORY

NR 256.40 APPLICABILITY; DESCRIPTION OF THE ZINC CASTING SUBCATEGORY.

(1) This subchapter applies to discharges to waters of the state and to introductions of pollutants into publicly owned treatment works from zinc casting operations. It applies to a production process if the molten metal contains, on average, greater than 50% by weight of zinc or if zinc comprises the greatest percentage of the metal, measured by weight.

(2) This subchapter does not apply to the casting of ingots, pigs or other cast shapes following primary metal smelting, which is regulated by the nonferrous metals manufacturing point source category under 40 C.F.R. Part 421. This subchapter does not apply to the casting of zinc performed as an integral part of zinc forming and conducted on-site at a zinc forming plant, which is regulated by the nonferrous metals forming point source category under 40 C.F.R. Part 471.

(3) Processing operations following the cooling of castings, except for grinding scrubber operations, may be regulated by nonferrous metals forming point source category under 40 C.F.R. Part 471, electroplating point source category under ch. NR 260, or metal finishing point source category under ch. NR 261.

NR 256.42 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST PRACTICABLE CONTROL TECHNOLOGY CURRENTLY AVAILABLE. Except as provided in 40 C.F.R. ss. 125.30 to 125.32, any existing point source subject to this subchapter, including noncontinuous direct discharges, shall achieve the following BPT effluent

limitations:

TABLE 71

ZINC CASTING SUBCATEGORY

CASTING QUENCH OPERATIONS

BPT Effluent Limitations					
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0344	0.0187	0.77	0.42	0.0076
Lead (T)	0.0353	0.0174	0.79	0.39	0.0098
Zinc (T)	0.0509	0.0192	1.14	0.43	0.0121
Oil & grease	1.34	0.446	30	10	0.223
TSS	1.7	0.67	38	15	0.446
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (5.35/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 72

ZINC CASTING SUBCATEGORY

DIE CASTING OPERATIONS

BPT Effluent Limitations

	NONCONTINUOUS DIRECT DISCHARGERS				
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0066	0.0036	0.77	0.42	0.0015
Lead (T)	0.0068	0.0034	0.79	0.39	0.0019
Zinc (T)	0.0098	0.0037	1.14	0.43	0.0023
Total phenols	0.0074	0.0026	0.86	0.3	0.0017
Oil & grease	0.259	0.0864	30	10	0.0432
TSS	0.328	0.13	38	15	0.0864
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (1.04/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 73

ZINC CASTING SUBCATEGORY

MELTING FURNACE SCRUBBER OPERATIONS

BPT Effluent Limitations

			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed		mg/l[1]	mg/l[1]	[2]
Copper (T)	1.56	0.852	0.77	0.42	0.345
Lead (T)	1.6	0.791	0.79	0.39	0.446
Zinc (T)	2.31	0.872	1.14	0.43	0.548
Total phenols	1.74	0.608	0.86	0.3	0.406
Oil & grease	60.8	20.3	30	10	10.1
TSS	77.1	30.4	38	15	20.3
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (0.243/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 SCF air scrubbed) for a specific plant.

(2) kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 74

ZINC CASTING SUBCATEGORY

MOLD COOLING OPERATIONS

BPT Effluent Limitations

			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.304	0.166	0.77	0.42	0.067
Lead (T)	0.311	0.154	0.79	0.39	0.0867
Zinc (T)	0.449	0.17	1.14	0.43	0.106
Oil & grease	11.8	3.94	30	10	1.97
TSS	15	5.91	38	15	3.94
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (47.3/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

NR 256.43 EFFLUENT LIMITATIONS REPRESENTING THE DEGREE OF EFFLUENT REDUCTION ATTAINABLE BY THE APPLICATION OF THE BEST AVAILABLE TECHNOLOGY ECONOMICALLY ACHIEVABLE. Except as provided in 40 C.F.R ss. 125.30 to 125.32, any existing point source subject to this subchapter, including noncontinuous direct dischargers, shall achieve the following BAT effluent limitations:

TABLE 75

ZINC CASTING SUBCATEGORY

CASTING QUENCH OPERATIONS

BAT Effluent Limitations					
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0334	0.0187	0.77	0.42	0.0076
Lead (T)	0.0237	0.0116	0.53	0.26	0.0067
Zinc (T)	0.0339	0.0129	0.76	0.29	0.008

(1) These concentrations shall be multiplied by the ratio of (5.34/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

TABLE 76

ZINC CASTING SUBCATEGORY

DIE CASTING OPERATIONS

BAT Effluent Limitations

			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0066	0.0036	0.77	0.42	0.0015
Lead (T)	0.0046	0.0022	0.53	0.26	0.0013
Zinc (T)	0.0066	0.0025	0.76	0.29	0.0016
Total phenols	0.0074	0.0026	0.86	0.3	0.0017

(1) These concentrations shall be multiplied by the ratio of (1.04/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

TABLE 77

ZINC CASTING SUBCATEGORY

MELTING FURNACE SCRUBBER OPERATIONS

BAT Effluent Limitations

			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/62.3 million (pounds per billion SCF) of air scrubbed		mg/l[1]	mg/l[1]	[2]
Copper (T)	1.56	0.852	0.77	0.42	0.345
Lead (T)	1.07	0.527	0.53	0.26	0.304
Zinc (T)	1.54	0.588	0.76	0.29	0.365
Total phenols	1.74	0.608	0.86	0.3	0.406

(1) These concentrations shall be multiplied by the ratio of (0.243/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 SCF air scrubbed) for a specific plant.

(2) kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed.

TABLE 78

ZINC CASTING SUBCATEGORY

MOLD COOLING OPERATIONS

BAT Effluent Limitations

			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.304	0.166	0.77	0.42	0.067
Lead (T)	0.209	0.103	0.53	0.26	0.0591
Zinc (T)	0.3	0.114	0.76	0.29	0.071

(1) These concentrations shall be multiplied by the ratio of (47.3/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

NR 256.44 NEW SOURCE PERFORMANCE STANDARDS. Any new source subject to this subchapter, including noncontinuous direct dischargers, shall achieve the following effluent standards:

TABLE 79

ZINC CASTING SUBCATEGORY

CASTING QUENCH OPERATIONS

	NSPS				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0344	0.0187	0.77	0.42	0.0076
Lead (T)	0.0237	0.0116	0.53	0.26	0.0067
Zinc (T)	0.0339	0.0129	0.76	0.29	0.008
Oil & grease	1.34	0.446	30	10	0.223
TSS	0.67	0.536	15	12	0.116
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (5.34/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 80

ZINC CASTING SUBCATEGORY

DIE CASTING OPERATIONS

	NSPS				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.0066	0.0036	0.77	0.42	0.0015
Lead (T)	0.0046	0.0022	0.53	0.26	0.0013
Zinc (T)	0.0066	0.0025	0.76	0.29	0.0016
Total phenols	0.0074	0.0026	0.86	0.3	0.0017
Oil & grease	0.259	0.0864	30	10	0.0432
TSS	0.13	0.104	15	12	0.0225
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (1.04/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 81

ZINC CASTING SUBCATEGORY

MELTING FURNACE SCRUBBER OPERATIONS

	NSPS				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed		mg/l[1]	mg/l[1]	[2]
Copper (T)	1.56	0.852	0.77	0.42	0.345
Lead (T)	1.07	0.527	0.53	0.26	0.304
Zinc (T)	1.54	0.588	0.76	0.29	0.365
Total phenols	1.74	0.608	0.86	0.3	0.406
Oil & grease	60.8	20.3	30	10	10.1
TSS	30.4	24.3	15	12	5.27
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (0.243/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 SCF air scrubbed) for a specific plant.

(2) kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed.

(3) Within the range of 7.0 to 10.0 at all times.

TABLE 82

ZINC CASTING SUBCATEGORY

MOLD COOLING OPERATIONS

	NSPS				
			NONCONTINUOUS DIRECT DISCHARGERS		
	Maximum for any 1 day	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Annual average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured		mg/l[1]	mg/l[1]	[2]
Copper (T)	0.304	0.166	0.77	0.42	0.067
Lead (T)	0.209	0.103	0.53	0.26	0.0591
Zinc (T)	0.3	0.114	0.76	0.29	0.071
Oil & grease	11.8	3.94	30	10	1.97
TSS	5.91	4.73	15	12	1.03
pH	(3)	(3)	(3)	(3)	(3)

(1) These concentrations shall be multiplied by the ratio of (47.3/x) where x is the actual normalized process wastewater discharge flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) kg/1,000 kkg (pounds per million pounds) of metal poured.

(3) Within the range of 7.0 to 10.0 at all times.

NR 256.45 PRETREATMENT STANDARDS FOR EXISTING SOURCES. Except as provided in ss. NR 211.13 and 211.14, any existing source subject to this subchapter which introduces pollutants into a publicly owned treatment works shall comply with ch. NR 211 and achieve the following pretreatment standards for existing sources:

TABLE 83

ZINC CASTING SUBCATEGORY

CASTING QUENCH OPERATIONS

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0344	0.0187
Lead (T)	0.0237	0.0116
Zinc (T)	0.0339	0.0129
TTO[1]	0.093	0.0304
Oil and grease[2]	1.34	0.446

(1) TTO is comprised of the following toxic organic pollutants:
2,4,6-trichlorophenol
para-chloro meta-cresol
2,4-dichlorophenol
2,4-dimethylphenol
fluoranthene
methylene chloride (dichloromethane)
phenol
bis(2-ethylhexyl) phthalate
di-n-butyl phthalate
diethyl phthalate
tetrachloroethylene

(2) Use as alternative to monitoring for TTO.

TABLE 84

ZINC CASTING SUBCATEGORY

DIE CASTING OPERATIONS

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0066	0.0036
Lead (T)	0.0046	0.0022
Zinc (T)	0.0066	0.0025
Total phenols	0.0074	0.0026
TTO[1]	0.0196	0.0064
Oil and grease[2]	0.259	0.0864

(1) TTO is comprised of the following toxic organic pollutants:
- acenaphthene
- 2,4,6-trichlorophenol
- para-chloro meta-cresol
- 2-chlorophenol
- 2,4-dimethylphenol
- methylene chloride (dichloromethane)
- naphthalene
- phenol
- bis(2-ethylhexyl) phthalate
- di-n-butyl phthalate
- diethyl phthalate
- tetrachloroethylene
- toluene
- trichloroethylene

(2) Use as alternative to monitoring for TTO.

TABLE 85

ZINC CASTING SUBCATEGORY

MELTING FURNACE SCRUBBER OPERATIONS

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant	kg/62.3 million Sm^3 (pounds per billion property SCF) of air scrubbed	
Copper (T)	1.56	0.852
Lead (T)	1.07	0.527
Zinc (T)	1.54	0.588
Total phenols	1.74	0.608
TTO[1]	3.95	1.29
Oil and grease[2]	60.8	20.3

(1) TTO is comprised of the following toxic organic pollutants:
- 2,4-dichlorophenol
- 2,4-dimethylphenol
- fluoranthene
- methylene chloride (dichloromethane)
- naphthalene
- phenol
- bis(2-ethylhexyl) phthalate
- di-n-butyl phthalate
- tetrachloroethylene
- toluene
- trichloroethylene

(2) Use as alternative to monitoring for TTO.

TABLE 86

ZINC CASTING SUBCATEGORY

MOLD COOLING OPERATIONS

	PSES	
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.304	0.166
Lead (T)	0.209	0.103
Zinc (T)	0.3	0.114
TTO[1]	0.821	0.268
Oil and grease[2]	11.8	3.94

(1) TTO is comprised of the toxic organic pollutants listed in Table 83.

(2) Use as alternative to monitoring for TTO.

NR 256.46 PRETREATMENT STANDARDS FOR NEW SOURCES. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into publicly owned treatment works shall comply with ch. NR 211 and achieve the pretreatment standards contained in s. NR 256.45.

NOTE: The citations of the Wisconsin administrative code correspond to provisions of the code of federal regulations as cross-referenced in the following table:

State Code Section	Corresponding Federal Regulation
ch. NR 256	40 C.F.R. Part 464
s. NR 205.03	40 C.F.R. s. 401.11
s. NR 205.04	40 C.F.R. s. 401.11
ch. NR 211	40 C.F.R. Part 403
s. NR 211.03	40 C.F.R. s. 403.3
s. NR 211.13	40 C.F.R. s. 403.7
s. NR 211.14	40 C.F.R. s. 403.13
ch. NR 219	40 C.F.R. Part 136
ch. NR 260	40 C.F.R. Part 413
ch. NR 261	40 C.F.R. Part 433

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The foregoing rules were approved and adopted by the State of Wisconsin Natural Resources Board on December 15, 1988.

The rules shall take effect the first day of the month following publication in the Wisconsin administrative register, as provided in s. 227.22(2) (intro.), Stats.

Dated at Madison, Wisconsin, February 13, 1989.

STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES

SEAL

By Carroll D Besadny.
Carroll D. Besadny, Secretary